

REMARKS/ARGUMENTS

The Office Action dated October 31, 2007 and the reference cited therein have been carefully considered. In response to the Office Action, Applicants have amended the Specification and Claims 1-2, 4-7 and 10, and canceled Claims 14-19 which, when considered with the remarks set forth below, are deemed to place the case with Claims 1-13 in condition for allowance.

Election/Restrictions

Claims 14-19 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a non-elected invention. In response, Applicant has canceled Claims 14-19.

Specification Amendments

In reviewing the Specification for preparing a response to the Office Action, two typographical errors were found. Accordingly, Applicant has amended the Specification to correct these errors. No new matter has been added.

Claim Objection

In the Office Action, Claim 1 has been objected to because of an informality. Specifically, the Examiner states that the word “side” in Claim 1 is misspelled and should be replaced with the word -slide-.

In response, Applicant respectfully points out that the word “side” is not misspelled. In particular, Applicant intended Claim 1 to define a wall part provided on at least one “side” of the mold cavity. Accordingly, it is respectfully submitted that the Claim Objection has been overcome.

Claim Rejections-35 USC § 102

Also in the Office Action, Claims 1-13 have been rejected under 35 U.S.C. §102(b) as being anticipated by Japanese Patent No. JP 06-182835 to Nakamura et al. In particular, the Examiner states that the Nakamura reference discloses a mold apparatus having two mold parts which move relative to each other in a first direction and two movable wall parts that are movable in a second direction.

Claim 1

In response, Applicant has amended Claim 1 to define a slidable rigid wall part moveable within a mold cavity in a second direction with respect to two mold parts movable in a first direction. It is respectfully submitted that the Nakamura reference does not teach or suggest a slidable rigid wall part, as defined in amended Claim 1.

Instead, the Nakamura reference only discloses a “wall part 24” made of a material having self-restoring properties and driven by hydraulic pressure. Specifically, in the Nakamura mold, hydraulic pressure is exerted outwardly, indicated by the arrows 26, for acting on a cap-like element 25 made from soft, self-restoring material. The cap-like element 25 is pulled over a male part of an injection mold and includes a wall part 24 that elastically expands or deforms to change the volume of the mold cavity. This elastic wall part is not a slidable rigid wall part, as defined in amended Claim 1.

The benefits of a slidable rigid wall part are evident when comparing operation of the mold of the present invention with the mold described in the Nakamura patent. In particular, when the mold cavity of either mold begins to fill, the injected plastic would, under the influence of gravity, first fill the lower portion. If a mold according to the Nakamura reference is used, moving the elastically deformable wall part 24 into the mold cavity at this point will force the wall part more into the upper portion of the mold cavity than into the lower portion due to the resistance of the plastic material in the lower portion. The result is an irregularly formed product.

In the invention defined in amended Claim 1, the slidable wall part is formed by a rigid slide moving in and out of the mold cavity. It is important that these slides are rigid such that they are not compressed by the plastic material injected. This ensures an exact

shape of the product to be formed, even if the thickness of the portions might be different. Such beneficial feature is not achieved by the Nakamura mold.

It is stated in the Nakamura reference that the aim of the disclosed mold is to mold products having no draft, wherein it is necessary to provide extra space for removal of the product. Thus, the purpose and function of the Nakamura mold is actually the opposite of the present invention.

In the invention defined by amended Claim 1, the space in the mold cavity defined between the core part and the movable wall has to be reduced during injection molding and kept at the reduced volume until the product is related. In stark contrast, the volume of the mold cavity defined by the Nakamura mold is reduced prior to injection molding, kept at the reduced volume and enlarged again prior to removal of the product from the mold.

Accordingly, it is respectfully submitted that amended Claim 1, and the claims that depend therefrom, patentably distinguish over the prior art.

Dependent Claim 4

Applicants have also amended dependent Claim 4 to define two separate and independently moveable wall parts. The Nakamura reference does not teach or suggest two separate and independently moveable wall parts, as defined in amended Claim 4.

Accordingly, it is respectfully submitted that, in addition to its dependence on patentably distinct Claim 1, dependent Claim 4 is patentable for this additional reason.

Specifically, the Nakamura reference discloses a single cap-like element 25 having an integrated deformable wall part operated by the same moving means (hydraulic pressure). In contrast, the two separate wall parts defined in Claim 4 are operated independently of each other. Thus, the movement of the slides can be independently controlled and restricted accurately.

Accordingly, it is respectfully submitted that amended Claim 4 patentably distinguishes over the prior art.

Claim 7

Claim 7 has been rewritten in independent form and further amended to clarify the structural arrangement of the central core part, the second core part and the movable wall.

Specifically, Claim 7 has been amended to define a second core part of the second mold part being disposed between a central core part of the first mold part and the movable wall part such that the moveable wall part is located at a side of the second core part facing away from the central core part. It is respectfully submitted that the Nakamura patent does not disclose a mold having such structural arrangement.

In particular, the Nakamura reference does not disclose a mold having two core parts as defined in amended Claim 7. Secondly, the “second core part 15,” as referred to by the Examiner, is on the opposite side from the moveable wall part. Clearly, this is a totally different structural arrangement than that set forth in amended Claim 7.

Accordingly, it is respectfully submitted that amended Claim 7 patentably distinguishes over the prior art.

Dependent Claim 10

Applicant has further amended Claim 10 to define a bottom wall part moveable in the first direction in the mold cavity, wherein the bottom wall part is disposed in a bottom surface forming part of the mold, and wherein at least one injection opening is also provided in the bottom surface forming part. The Nakamura reference does not teach or suggest a moveable bottom wall part, as defined in amended Claim 10. Accordingly, it is respectfully submitted that, in addition to its dependence on patentably distinct Claim 1, dependent Claim 10 is patentable for this additional reason.

Accordingly, it is respectfully submitted that amended Claim 10 patentably distinguishes over the prior art.

Conclusion

In view of the foregoing amendment and remarks, favorable consideration and allowance of the application with Claims 1-13 are respectfully solicited. If the Examiner believes that a telephone interview would assist in moving the application toward allowance, he is respectfully invited to contact the Applicants' attorney at the telephone number listed below.

Respectfully submitted,



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